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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,766	11/15/2001	Dan A. Steinberg	23091/27-ACT-163(A1148.00	7462

26086 7590 05/07/2003

HALEOS, INC.
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EXAMINER

VALENCIA, DANIEL E

ART UNIT PAPER NUMBER

2874

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,766

Applicant(s)

STEINBERG ET AL.

Examiner

Daniel E Valencia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28-39 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Inventorship

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the citizenship of each inventor.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13, 18-26, 28-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato U.S. Patent No. 5,853,626. Refer to the appropriate drawings or parts of the specification. Kato discloses an optical module fabrication process, wherein the admitted prior art of the reference discloses the claimed invention.

Regarding claims 1, 2, 4, 5, 10, 20, 21, 23-25, 30, 31, 33, Kato disclose an optical assembly (fig 1 "prior art"), comprising: a substrate (15 and 16) including an upper surface and a cut out portion (not labeled); an optical array (fibers emanating from 13) mounted on said upper surface; an integrated optic chip (14) affixed to the side of the substrate; wherein adhesive is used to affix the optical array to the upper surface (col. 4, lines 1-4); a waveguide (11) mounted on the integrated chip; a notch (holding 12, but not labeled) which serves as a wick stop; and an imaging assembly (12) positioned at least partially within said cutout portion, said imaging assembly including at least one imaging device mounted on a first chip; wherein said optical array is optically coupled to said imaging assembly. With further reference to claim 24, Kato discloses that adhesive is used to affix the optical array to the upper surface. Kato's disclosure also shows that the waveguide (referred as "carrier" ref 11) includes a core and a cladding, wherein the waveguide is coupled to the imaging assembly, as mentioned in claims 3 and 22. Referring to claims 6 and 29, Kato shows that the optical array is an optical bench (16). Kato further discloses that the optical fiber array comprises a second chip (16) with at least one fiber mounted to the chip in a V-groove

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(col. 1, line 30) extending over the cutout portion, and wherein the array has a lid chip, as explained in claims 7-9, 11, 12, and 28. As to claim 13, Kato discloses that the imaging assembly is an array of lenses (col. , lines 10-35). Kato's disclosure shows that the cut out portion is a valley including a recessed area between at least one pair of ledges (valley holding 12), as mentioned in claims 18 and 19. Regarding claim 26, the figure shows that the array would at least partially cover the notch. The reference also shows that the array and the optical chip are coupled at an interface, which is vertically above the notch, as described in claims 32 and 34.

With reference to claims 35, to 39, the steps in the method claims would have been inherently disclosed by the structure of the prior art device.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-19, 35-37, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Steinberg U.S. Patent Application Publication No. 2002/0181854. Refer to the appropriate drawings or parts of the specification. Examiner notes that although the present application and the cited Pregrant Publication reference have three common inventors; the two have a different assignee. Therefore the reference is applicable prior art. Steinberg discloses a fiber array switch having a micromachined front face with roller balls with all the limitations of the abovementioned claims.

Regarding claims 1 and 35, Steinberg discloses an optical assembly (figures 17, 19, 25, and 26), comprising: a substrate including an upper surface (82) and a cut out portion (middle of figure 26); an optical array mounted on said upper surface; and an imaging assembly (90 and 92) positioned at least partially within said cut-out portion, said imaging assembly including at least one imaging device mounted on a first chip; wherein said optical array (28) is optically coupled to said imaging assembly. Steinberg further discloses that the optical array is affixed to said imaging assembly and said imaging assembly is affixed to said substrate (paragraph 80), as mentioned in claim 2.

As to claim 3, Steinberg discloses that waveguide is mounted on the substrate (28) and is optically coupled with the imaging assembly and including at least one waveguide core encased within the cladding (inherent property of waveguide). Steinberg's disclosure shows that the optical array is an optical bench (82), as explained instant claim 6. With reference to claims 7, 9, and 36, Steinberg's disclosure shows that the optical array includes a second chip and at least one fiber mounted to said second chip in a V-groove (figure 17). It would be inherent that the optical fiber extends over the cut out portion, as mentioned in claim 8. Regarding claim 10, Steinberg discloses that the second chip includes a notch (60) transverse to said V-groove. Steinberg further discloses that the fiber array comprises a lid chip (80), as described in claim 11. As to claims 12-17 and 37, Steinberg's disclosure shows that the first chip includes V-grooves, wherein the imaging device, which can be lens comprised of spherical, cylindrical, or fiber lenses, can be mounted in the groove (fig 19). Steinberg's disclosure also shows that the cut out portion is a valley that includes a recessed area

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between at least one pair of ledges and a notch that serves as a wick stop (fig 26), as mentioned in claims 18, 19, and 39.

Claims 1-6, 13, 17-25, and 28-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Yap U.S. Patent No. 6,483,969. Refer to the appropriate drawings or parts of the specifications. Yap discloses an apparatus for making micro-fixtured lensed assembly for optoelectronic devices. Regarding claims 1, 4, 5, 20, 21, 23-25, 30, 33, and 35, Yap discloses an optical assembly (fig 2-4), comprising: a substrate (400) including an upper surface and a cut out portion (404); an optical array (406) mounted on said upper surface; and an imaging assembly (416) positioned at least partially within said cut-out portion, said imaging assembly including at least one imaging device mounted on a first chip (408); wherein said optical array is optically coupled to said imaging assembly, an integrated optic chip is affixed to said side surface of the substrate, wherein a waveguide is formed in the integrated chip, and wherein at least one notch serves as a wick stop. Yap further discloses that the optical array is affixed to said imaging assembly and said imaging assembly is affixed to said substrate (col. 6, lines 52-bottom), as mentioned in claim 2. As to claims 3 and 22, Steinberg discloses that waveguide is mounted on the substrate and is optically coupled with the imaging assembly and including at least one waveguide core encased within the cladding (inherent property of waveguides). Steinberg's disclosure shows that the optical array is an optical bench (402), as explained instant claims 6 and 29. Regarding claims 13 and 17, Yap discloses that the apparatus's imaging device is a spherical lens

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(col. 7). Yap also shows that the cut-out portion is a valley, wherein the cut-out includes a recessed area between ledges (404), as explained in claims 18, 19, and 39.

Referring to claims 28, 31, and 36 Yap discloses that the array is an array of fibers (406). Yap's disclosure shows that the integrated optic chip and the optical array are optically coupled at an interface, which is vertically above the notch, as described in instant claims 32 and 34. With regards to claim 37, Yap shows that the plurality of lenses is within a chip and are coupled through contact to the optical fibers. Yap further discloses that the fibers are adhered to the imaging assembly (col. 6, lines 52-bottom), as mentioned in claim 38.

Allowable Subject Matter

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form ***including all of the limitations of the base claim and any intervening claims.***

As to claim 27, the prior art alone fails to disclose or render obvious an optical assembly of claims 25 and 24, wherein the optical array completely covers the notch. For example, although Kato and Yap disclose similar types of optical assemblies with notches and optical arrays, neither one of them discloses that the optical array *completely* covers the notch.

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Conclusion

The prior art documents submitted by the applicant in the Information Disclosure Statement filed on May 21, 2002 and November 15, 2001, have all been considered and made of record (note attached copy of form PTO-1449).

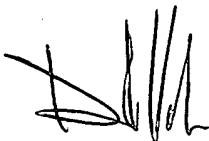
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shaw U.S. Patent No. 6,456,766 discloses an optoelectronic package with an optical array and imaging device.

Miura U.S. Patent No. 5,966,488 discloses an optical module for connecting optical element and optical fiber with an optical array mounted on the upper surface of a substrate and a notch used as a wick stop.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel E Valencia whose telephone number is (703)-305-4399. The examiner can normally be reached on Monday-Friday 9:30-6:00.

The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7724 for regular communications and (703)-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



dv
April 30, 2003



AKIM ENAYET ULLAH
PRIMARY EXAMINER